



Quadrennial Planning Process IV – Phase II Docket 5-FE-104

Behavioral Programs Comments

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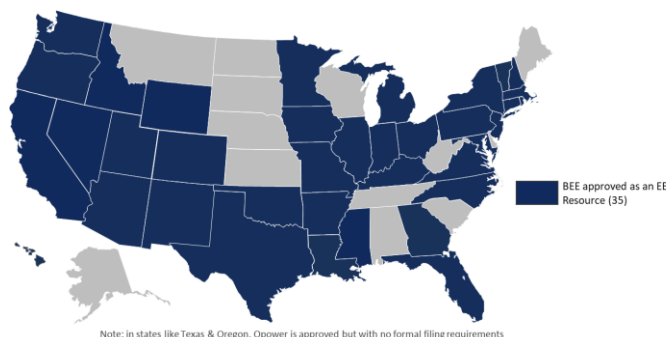
Thank you for the opportunity to participate in the Public Service Commission of Wisconsin's (Commission) Quadrennial Planning Process IV docket in evaluating Wisconsin's Focus on Energy (Focus) programs and providing comments relative to the Commission's Phase II memorandum.

Overview

Opower got its start in 2007 by studying energy consumer behavior, in working with utilities to help their customers save energy and money. In 2016, Oracle acquired Opower.

Opower is a customer engagement solution that brings artificial intelligence and behavioral science to the utility customer experience in order to influence customer action and drive energy savings. Over 175 utilities globally have deployed Opower to reduce energy usage, reduce and shift peak demand as well as reduce emissions by designing products that reflect how people behave and can be deployed and drive valuable customer results at scale, engaging tens of thousands to millions of customers within a utility's footprint.

Behavioral energy efficiency (BEE) is an approved resource across the U.S. The map below provides those states that have approved BEE as a resource:



Note: in states like Texas & Oregon, Opower is approved but with no formal filing requirements

In working with Opower's utility partners, our behavioral efficiency programs have saved just over 33 TWh through the end of May 2022 which is the equivalent of 3.1 million households off the electric grid for a year. In terms of decarbonization, we have avoided 16.2 MMt CO₂e; the equivalent of driving 3.5 million passenger vehicles for one year. In addition, from a customer engagement perspective, Opower has completed over 1 billion Home Energy Report outbound communications in engaging with utility customers on energy savings and usage insights to influence action.

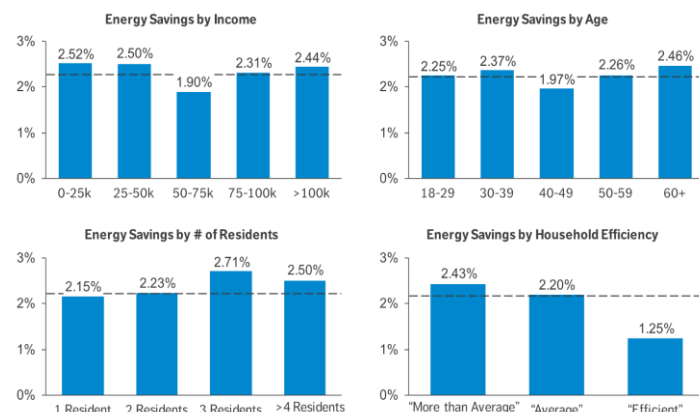
In addition, Opower engages customers through utilities' smart meter investments to increase customer awareness of those benefits. This means making data accessible through digital engagement and changing customer behavior with personalized energy insights. The results are delivered through bill savings, reduced energy usage as well as adoption of other programs and products.

Measurement of behavioral program savings

As the Commission notes, measuring impacts and evaluating savings utilizing the randomized control trial (RCT) methodology for behavioral programs ensures realized and confident program results. Opower's Analytics team in partnership with 3rd party evaluators use RCTs as a trusted tool in comparing statistically equivalent customer groups; treatment and control; to measure energy savings outcomes.

Value of behavioral programs

Equitable access to benefits: In addition to delivering measurable savings at scale, behavioral programs provide equitable access to energy savings benefits regardless of home ownership status, income, or age.



Opower's equitable savings rates for Home Energy Reports

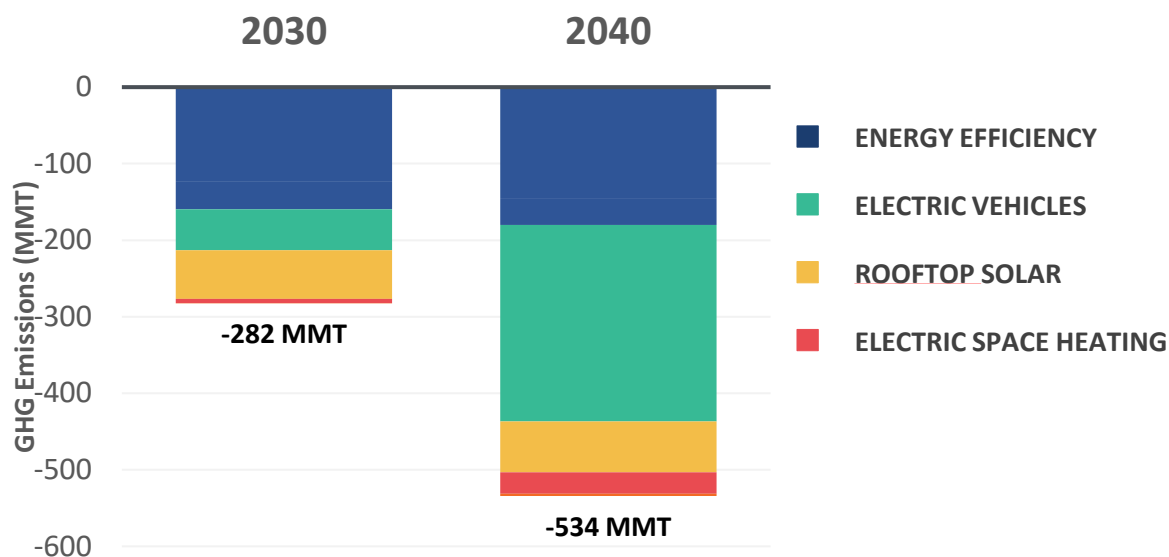
Decarbonization: In a 2020 research report, The Analysis Group¹ highlighted the climate value of behavior-based efficiency relative to longer lived measures in reducing GHG emissions at scale and when they are needed most – today. Those reductions from behavioral achieve the same or greater climate value for approximately a quarter of the cost of whole home programs.

A recent study focusing on utility customer actions² conducted by Opower and The Brattle Group, illuminates the relative emissions impacts of various actions – both energy supply relative to demand solutions, and demand-side solutions relative to each other. Of all the demand-side actions (electric and gas efficiency, distributed solar, EV adoption, and home electrification), energy efficiency makes the largest single contribution in 2030 and is only outpaced by EV adoption in 2040.

¹ <https://go.oracle.com/LP=97548?elqCampaignID=262134> - The role of Behavioral Energy Efficiency in Decarbonization

² <https://www.brattle.com/insights-events/publications/report-by-brattle-economists-quantifies-impact-of-customer-driven-adoption-of-decarbonization-technologies/>

Brattle Customer Action Pathway - Nationwide GHG Emissions Impacts



The research also found that these consumer-driven demand-side solutions can contribute nearly two-times the avoided emissions value than that of supply-side solutions alone. These solutions come at the lowest cost. The McKinsey 2030 global GHG abatement cost curve³ shows existing building energy efficiency measures having the lowest cost per avoided GHG (relative to supply-side solutions such as CCS, renewable generation and nuclear).

Cost: While all utility energy efficiency measures have decarbonization value, behavior-based energy efficiency provides the lowest cost solution on a dollar per avoided GHG basis¹ and is accessible to all customers regardless of housing type and income.

Continued savings: In states where EISA lighting standards have been in place for several years, behavioral savings continue to deliver savings at the same rate.⁴ As the Commission discusses the persistence of behavioral program savings, the California Public Utilities Commission (CPUC) 2018 Impact Evaluation Report of Home Energy Reports describes the various utilities' savings from their behavioral programs over time; "PG&E and SGE&E began offering their HER programs in 2011, while SCE and SCG first offered their programs in 2012 and 2015, respectively. By the end of 2015, these reports constituted the largest residential measure on a kilowatt-hours-saved basis."⁵ CPUC's conclusion notes; "HER continues to be a residential energy savings workhorse with verified energy and demand savings ensuring residential energy efficiency programs deliver sizeable and durable energy savings."⁶

³ <https://www.mckinsey.com/business-functions/sustainability/our-insights/pathways-to-a-low-carbon-economy>

⁴ Impact Evaluation of Home Energy Reports Residential Sector - Program Year 2018 EM&V Group A CALIFORNIA PUBLIC UTILITIES COMMISSION CALMAC ID: CPU0206.01

⁵ Page 6, Impact Evaluation of Home Energy Reports Residential Sector - Program Year 2018 EM&V Group A CALIFORNIA PUBLIC UTILITIES COMMISSION CALMAC ID: CPU0206.01

⁶ Page 69, Impact Evaluation of Home Energy Reports Residential Sector - Program Year 2018 EM&V Group A CALIFORNIA PUBLIC UTILITIES COMMISSION CALMAC ID: CPU0206.01

Balanced DSM portfolio of measures: Behavioral programs provide year over year ratepayer and climate value that is unmatched, even though HERs have a short measure life. Annual saving from HERs translate into avoided emissions that are realized now and continue to scale if the program remains in place. Retrofitting the building stock will take decades and we need to do more of it and faster to meet climate and affordability goals. That said, reducing GHG emissions from the power sector needs to happen now as climate change cannot wait and to engage customers in the clean energy transition today. That's where behavioral programs come in. According to ACEEE's 2019 report, "Energy Efficiency Over Time: Measuring and Valuing Lifetime Energy Savings in Policy and Planning", balanced portfolios "should include both long and short-term measures. Short term measures also offer incremental savings that long-term measures alone cannot achieve, because they address different end uses or because they augment physical measures with behavioral changes that support conservation, like home energy reports, or operational changes that ensure the maintenance of savings, like air-conditioning filter replacement."⁷ A resource can have a short measure life and still provide strategic climate value.

For example, weatherization program adoption requires a complex and sometimes costly journey and is well suited to be matched with behavioral approaches. Behavioral approaches that leverage data and artificial intelligence (AI) can better target and effectively communicate with customers who have a high propensity to adopt weatherization-related measures. Opower recently tested this approach in Massachusetts and the result was impressive: a 2.9X increase in home weatherization adoption⁸. In places like Illinois and Maryland, as reported in independent evaluations of the programs, we regularly see HER programs driving participation (uplift) in other DSM programs, upwards of 9% of savings measured by the behavior program result from customers who receive HERs being motivated to participate in other demand side management programs.

Conclusion

I appreciate the opportunity to share the significant benefits of behavioral programs in this phase of the Commission's Quadrennial Planning Process IV.

As the Commission considers Focus' engagement in behavioral programs, utilities can administer such voluntary programs alongside other programs offered on a statewide basis. While we are agnostic about which entity delivers a behavioral program, Home Energy Report programs require access to individual meter data and the ability to manifest that data into personalized messages in order to deliver a measurable impact.

With Opower's dedicated focus on leading edge utility software, and a mission to influence customer action on an incredible scale to drive energy savings and decarbonization, please let me know if I or others at Opower can provide any additional context or support.

Sincerely,

Anne Lenzen
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Oracle Energy and Water – Opower

⁷ <https://www.aceee.org/research-report/u1902>

⁸ <https://www.oracle.com/news/announcement/oracle-helps-national-grid-cut-carbon-through-weatherization-2022-04-13/>